WHAT IS CLAIMED IS:

1. A network relaying device comprising;

a determining unit which detects size information for data transfer of devices including a transmitting-side device arranged on network, a transmitting-side network relaying device connected to the transmitting-side device, a receiving-side network relaying device for performing a relaying operation with the transmitting-side network relaying device, and a receiving-side device connected to the receiving-side network relaying device and arranged on the receiving-side networks, and which determines the minimum one of the size information as a maximum transferable size; and

an updating unit which updates a maximum transferable size information of the transmitting-side device based on the maximum transferable size determined by the determining unit.

2. A network relaying device according to claim 1, wherein the size information detected by the determining unit is a receiving buffer size, and

wherein the determining unit determines the minimum one of the receiving buffer sizes as the maximum transferable size, when the determining unit determines that a request packet received by the network relaying device is aimed at investigating the receiving buffer sizes of the devices.

3. A network relaying device according to claim 1, wherein the size information detected by the determining unit is a usable maximum command size, and

wherein the determining unit determines the minimum one of the maximum command sizes as the maximum transferable size, when the determining unit determines that a request packet received by the network relaying device is aimed at investigating the maximum command sizes of the devices.

4. A network relaying device according to claim 1, wherein the determining unit executes at least the detecting process at the time of activating the network relaying device.

5. A network relaying device according to claim 1, wherein the determining unit executes at least the detecting process at the time of resetting the bus of the network relaying device.

6. A network relaying device according to claim 1, wherein the updating unit receives a response packet transmitted from the receiving-side device in accordance with a request packet from the transmitting-side device, and updates the response packet to the maximum transferable size determined by the determining unit.

7. A network relaying device according to claim 1, wherein the updating unit receives a response packet transmitted from the receiving-side device in

accordance with a request packet from the transmitting-side device, and updates the response packet to the maximum transferable size determined by the determining unit, the updated response packet is transferred to the transmitting-side device so that the transmitting-side device appropriately dividing a transmission packet in accordance with the maximum transferable size.

8. A network relaying device comprising;

a determining unit which detects size information for data transfer of devices including a transmitting-side device arranged on network, a transmitting-side network relaying device connected to the transmitting-side device, a receiving-side network relaying device for performing a relaying operation with the transmitting-side network relaying device, and a receiving-side device connected to the receiving-side network relaying device and arranged on the other side of said plurality of the wire networks, and which determines the minimum one of the size information as a maximum transferable size; and

a dividing unit which divides a packet received from the transmitting-side device in accordance with the maximum transferable size determined by the determining unit.

9. A network relaying device according to claim 8, wherein the size information detected by the determining unit is a receiving buffer size, and

wherein the determining unit determines the minimum one of the receiving buffer sizes as the maximum transferable size, when the determining unit determines that a request packet received by the network relaying device is aimed at investigating the receiving buffer sizes of the devices.

10. A network relaying device according to claim 8, wherein the size information detected by the determining unit is a usable maximum command size, and

wherein the determining unit determines the minimum one of the maximum command sizes as the maximum transferable size, when the determining unit determines that a request packet received by the network relaying device is aimed at investigating the maximum command sizes of the devices.

11. A network relaying method comprising:

detecting size information for data transfer of all devices including transmitting-side devices arranged on network, a transmitting-side network relaying device connected to the transmitting-side devices, a receiving-side network relaying device for performing a relaying operation with the transmitting-side network relaying device, and a receiving-side device connected to the receiving-side network relaying device and arranged on the other (N') of said plurality of the wire networks;

determining the minimum one of the detected size

information as a maximum transferable size; and

updating the maximum transferable size information of the transmitting-side devices based on the maximum transferable size determined.

12. A network relaying method according to claim 11, wherein the detected size information is a receiving buffer size, and

wherein the minimum one of the receiving buffer sizes is determined as the maximum transferable size, when it is determined that a request packet received by the network relaying device is aimed at investigating the receiving buffer sizes of the devices.

13. A network relaying method according to claim 11, wherein the detected size information is a usable maximum command size, and

wherein the minimum one of the maximum command sizes is determined as the maximum transferable size, when it is determined that a request packet received by the network relaying device is aimed at investigating the maximum command sizes of the devices.

14. A network relaying method according to claim 11, wherein the detecting process is executed at the time of activating the network relaying device.

15. A network relaying method according to claim 11, wherein the detecting process is executed at the time of resetting the bus of the network relaying device.

16. A network relaying method according to claim 11, wherein the updating process is performed by receiving a response packet transmitted from the receiving-side device in accordance with a request packet from the transmitting-side device, and updating the response packet to the determined maximum transferable size.

17. A network relaying method according to claim 11, wherein the updating process is performed by receiving a response packet transmitted from the receiving-side device in accordance with a request packet from the transmitting-side device, and updating the response packet to the maximum transferable size determined by the determining unit, the updated response packet is transferred to the transmitting-side device so that the transmitting-side device appropriately divides a transmission packet in accordance with the maximum transferable size.

18. A network relaying method comprising;

detecting size information for data transfer of all the devices including a transmitting-side device arranged on network, a transmitting-side network relaying device connected to the transmitting-side device, a receiving-side network relaying device for performing a relaying operation with the transmitting-side network relaying device, and a receiving-side device connected to the receiving-side network relaying

device and arranged on the other side of said plurality of the wire networks;

determining minimum one of the detected size information as a maximum transferable size; and

dividing a packet received from the transmitting-side device in accordance with the determined maximum transferable size.

19. A network relaying method according to claim 18, wherein the detected size information is a receiving buffer size, and

wherein the minimum one of the receiving buffer sizes is determined as the maximum transferable size, when it is determined that a request packet received by the network relaying device is aimed at investigating the receiving buffer sizes of the devices.

20. A network relaying method according to claim 18, wherein the detected size information is a usable maximum command size, and

wherein the minimum one of the maximum command sizes as the maximum transferable size, when it is determined that a request packet received by the network relaying device is aimed at investigating the maximum command sizes of the devices.